

To: Foster, Althea[Foster.Althea@epa.gov]; Webster, Susan[webster.susan@epa.gov]; Crossland, Ronnie[Crossland.Ronnie@epa.gov]; Martin, John[martin.john@epa.gov]; Loesel, Matthew[loesel.matthew@epa.gov]; Knabel, Jessica[Knabel.Jessica@epa.gov]; Rauscher, Jon[Rauscher.Jon@epa.gov]
Cc: Ngo, Kim[Ngo.Kim@epa.gov]; Fanning, Cynthia[fanning.cynthia@epa.gov]
From: Restivo, Angela
Sent: Thur 8/13/2015 10:04:57 PM
Subject: FW: QASP

From: Kliphuis, Trais, NMENV [mailto:trais.kliphuis@state.nm.us]
Sent: Thursday, August 13, 2015 4:45 PM
To: Restivo, Angela
Cc: Tongate, Butch, NMENV; Yurdin, Bruce, NMENV; Stephanie.Stringer_state.nm.us; Garcia, David
Subject: FW: QASP

Hi Angela,

Below are the comments from NMED WPD regarding the EPA QASP. Please let me know if you have questions or concerns.

Trais Kliphuis

Director, Water Protection Division

New Mexico Environment Department

Office Phone: 505-827-1758

Cell: 505-231-8412

From: Hunter, Michelle, NMENV
Sent: Thursday, August 13, 2015 3:34 PM
To: Yurdin, Bruce, NMENV; Kliphuis, Trais, NMENV; Longmire, Patrick, NMENV; Stringer, Stephanie, NMENV

Cc: LucasKamat, Susan, NMENV; Flynn, Ryan, NMENV; McQuillan, Dennis, NMENV
Subject: RE: QASP

I agree with Bruce. I also noticed in several parts of the document that it states that EPA will make unilateral decisions- like this: Water and sediment samples will be collected at locations designated by the EPA OSC.

I believe that these should say in collaboration (or something similar) with NMED. In nearly (if not) all instances. I am not sure that we want them making decisions about sampling locations without our input. If their QASP says that they need our input, then they must get it.

From: Yurdin, Bruce, NMENV
Sent: Thursday, August 13, 2015 11:29 AM
To: Kliphuis, Trais, NMENV; Longmire, Patrick, NMENV; Hunter, Michelle, NMENV; Stringer, Stephanie, NMENV
Cc: LucasKamat, Susan, NMENV; Flynn, Ryan, NMENV; McQuillan, Dennis, NMENV
Subject: RE: QASP

SWQB comments:

This is a fairly typical QAPP. DQOs are well defined and the sample documentation procedures and COC are clearly written.

Section 2.2 list heavy metal concentrations in ug/L not mg/l just FYI.

Identified Analysis Methods are mostly standard EPA Methods, nothing stood out.

Sampling/Monitoring Approach Section 4.3.2

This is the one section that is deficient as it requires us to find the *START SOPs 1002-01* for water and sediment sampling. The QAPP lacked a reference or link.

This information may be available in Appendix C which was not attached to the document reviewed but is referenced as having these SOPs.

Hold Times and Preservation

Hold Times are accurate but they are still using 4 degrees C as a temperature requirement when the CFRs now allow 6 degrees C.

Blank Frequency

Field Blanks are consistent with our procedures at a 10% frequency however they collect equipment blanks at a 5% frequency. We collect at a 10% frequency across the board.

Laboratory Detection Limits

PQL, LDL, LQL. These have not been defined which would often be the case if a lab had not been chosen but if WESTON is the contract Lab for this project they should have these available if requested and preferably should be in the QAPP.

Summary: We need Appendix C and a reference section would be nice.

bjy

From: Kliphuis, Trais, NMENV

Sent: Thursday, August 13, 2015 11:07 AM

To: Longmire, Patrick, NMENV; Yurdin, Bruce, NMENV; Hunter, Michelle, NMENV; Stringer, Stephanie, NMENV

Cc: LucasKamat, Susan, NMENV; Flynn, Ryan, NMENV; McQuillan, Dennis, NMENV

Subject: RE: QASP

Thanks Pat! Everyone else, please RLSO your comments and edits.

Trais Kliphuis

Director, Water Protection Division

New Mexico Environment Department

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From: Longmire, Patrick, NMENV
Sent: Thursday, August 13, 2015 11:03 AM
To: Kliphuis, Trais, NMENV; Yurdin, Bruce, NMENV; Hunter, Michelle, NMENV; Stringer, Stephanie, NMENV; Longmire, Patrick, NMENV
Cc: LucasKamat, Susan, NMENV; Flynn, Ryan, NMENV; McQuillan, Dennis, NMENV
Subject: RE: QASP

Trais,

My comments and recommendations on the QASP, submitted by the EPA to the NMED on Wednesday, August 12, 2015, are provided below. This does not include the revised DRAFT QASP provided today.

The NMED greatly appreciates the opportunity to provide input and suggestions to the DRAFT QASP. Selected personnel (physical scientists) from NMED and possibly other organizations in New Mexico need to be involved with all aspects of sediment sampling and analysis during this investigation being conducted in New Mexico along the Animas River watershed. NMED reserves the right to collect independent sediment and water samples that will be colocated with sample locations selected by EPA.

Rigorous DQOs focusing on where and how sediment samples will be collected in the field along the Animas River watershed needs to be developed and presented in the DRAFT QASP. There needs to be careful consideration of geomorphic-fluvial settings along the Animas River. Contaminated suspended material derived from the Gold King Mine most likely settles out in specific aquatic environments along the Animas River, and this control on sediment deposition needs to be evaluated in the field prior to selecting sampling sites. Collecting sediment samples with iron (oxy)hydroxide-oxide coatings is of the utmost priority, as toxic metals derived from the Gold King Mine are associated with these coatings through adsorption and/or coprecipitation. Sediment grain size needs to be specified during sample collection, including clay- and silt-sized material, sand, and gravel. For example, iron (oxy)hydroxide coatings could be carefully separated from gravel prior to analyses. Determining sediment sample depth needs to be specified in the DRAFT QASP. Careful documentation of selected sampling sites

along the Animas River needs to be provided.

Selection of sites consisting of baseline-background sediment locations shall be rigorously developed by both the EPA and NMED, which will include sediment and volcanic source, mineralogy, geomorphic and fluvial settings, particle size, and other important variables.

Extraction procedures for analysis of sediments needs to be specified in the DRAFT QASP, which probably will consist of the EPA 3050 extraction procedure. Rigorous laboratory and field QA needs to be applied to the sediment investigation.

Solid organic matter (SOM) needs to be included in the analytical list for sediments, as metals including aluminum, cadmium, copper, iron, manganese, mercury, nickel, zinc, and others are known to bind SOM in sediments. Chemical interactions between SOM and metals strongly influence metal leachability and mobility in fluvial environments. Sediment pH (1 : 1 paste) and oxidation-reduction potential (ORP) shall be measured in the laboratory.

The analyte list for nonfiltered water samples shall include: total metals including uranium and mercury, total carbonate alkalinity, total organic carbon, and total suspended solids.

The analyte list for filtered water samples shall include: dissolved metals including uranium, total carbonate alkalinity, chloride, sulfate, nitrate-N, nitrite-N, fluoride, orthophosphate, dissolved organic carbon, and total dissolved solids. Charge balance for dissolved major cations (Ca, Mg, Na, and K) and major anions (HCO₃, SO₄, and Cl) shall be calculated for each filtered water sample and provided in reports.

Field parameters for water samples include pH, ORP, temperature, specific conductance, turbidity, and dissolved oxygen.

Merci,

Pat

Susan's comments are provided below.

Pat,

My quick list. I read with an eye for the were of the samples, deferring to your expertise on methods and analytes.

They QASP referenced two (2) SOPs. The location selection data may be in the SOPs. If it is, we need the SOPs to review.

Surface water:

- Sample location
 - o Depth sample taken. If based on field conditions, criteria for this determination
 - o Type of sample (grab sample, composite of multiple samples, etc.)
 - o Location in relation to stream characteristics – in middle of stream, at inner/outer edge
- Analytes
 - o Would it be useful to add a suspended solid concentration or other analysis of sediment sizes

Sediments

- Sample location
 - o Specify depth, if consistent depth (i.e. 0-2cm) or if based on field conditions and varies; if based on field conditions the criteria for selection
 - o May not be interested in representative sample, may want samples of “worst case scenario” of contaminated sediment deposition
 - o Where are sediment samples being collected? Along banks, in river, on flood plane.

- o Collect along banks, specify if composite of multiple samples within a 5m radius (or other appropriate spacing) or a sample from a 1m x 1m square (or other scale)
- o Specific grain size. Will sift for clays/sediments?

Patrick Longmire, Ph.D.
Aqueous Geochemist

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From: Kliphuis, Trais, NMENV
Sent: Thursday, August 13, 2015 9:15 AM
To: Yurdin, Bruce, NMENV; Hunter, Michelle, NMENV; Stringer, Stephanie, NMENV
Cc: Longmire, Patrick, NMENV; LucasKamat, Susan, NMENV
Subject: RE: QASP

Susan and Pat are working on bullets addressing the deficiencies in the plan. More coming soon. We will send for your input in a few hours.

Trais Kliphuis

Director, Water Protection Division

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From: Garcia, David [<mailto:Garcia.David@epa.gov>]
Sent: Wednesday, August 12, 2015 11:46 AM
To: Kliphuis, Trais, NMENV; Yurdin, Bruce, NMENV; Longmire, Patrick, NMENV; Hunter, Michelle, NMENV; Stringer, Stephanie, NMENV
Subject: FW: QASP

Draft sampling plan. Refer to attachment

From: Foster, Althea
Sent: Wednesday, August 12, 2015 12:35 PM
To: Garcia, David
Cc: Restivo, Angela; Crossland, Ronnie; Webster, Susan; Petersen, Chris
Subject: Fwd: QASP

David,

Draft QASP. Still a little rough. Not able to make all changes but for purposes of expedience.

Please distribute as appropriate.

Sent from my iPad